

Table ES-1: Slip 4 Source Control Actions

Site & Task Name	Agencies Involved	Action Items Milestones & Targets	Description & Comments Potential Sources
NBF & KCIA (North Boeing Field at King Co. International Airport) KC Airport SD #3/PS44 EOF	Ecology, SPU, SCL, KCIA, Boeing, EPA	(1) WDOE March 2006 (2) WDOE Apr-Aug 2006 (3) Boeing late 2006 (4) Data Aug 2006 (5) Boeing, EPA by end 2006 (6) Boeing/EPA end 2006 (7) SPU, Boeing, KCIA late 2007 (8) Boeing, SPU 2008 (9) see below - NPDES	Ongoing source: SPU installed in-line sediment traps across NBF & surrounding area in Feb 2005, receiving data in Aug 05. Data show PCB contamination from GTSP, GT Flume, I-5/residential area (see below) and KCIA and Boeing-lease space at the airport. SPU, Ecology, EPA, KC and Boeing are currently evaluating all available data to identify possible source areas or activities and possible controls. Boeing is removing PCB-contaminated caulking from runways. Actions: (1) Ecology's TCP, Waste and Water programs and KC/Hazardous Waste inspected NBF (Nov-Dec 2005) - reported results are pending. (2) Comprehensive data analyses. (3) Boeing revision to Stormwater Management Plan. (4) Data from in-line sed traps re-installed for 05/06 season -- around Aug 06. (5) Caulking removal conducted under TSCA completed with removal of last 1400 linear feet. (6) Clean lines & structures of contamination. (7) Complete source tracing. (8) Resample for effectiveness. (9) Evaluate existing NPDES industrial stormwater permits for potential Slip 4 sediment impacts.
I-5 & Residential Drainage I-5 Storm Drain	SPU, WSDOT	SPU & WSDOT (1) 2006 (2) 2007 (3) 2007-2008	Potential ongoing source: Based on Aug 05 data (see NBF & KCIA above), this drainage may be a source of PCBs to Slip 4. SPU is conducting source-tracing in the small commercial/industrial business strip along I-5 to determine if there are any obvious sources and will involve Washington State Department of Transportation as necessary. Actions: (1) Complete source tracing. (2) Clean lines & structures of contamination. (3) Resample for effectiveness.
Georgetown Flume	SPU, SCL, Ecology/ EPA	(1) SPU 11/05 - 3/06 (2) SPU 2007 (3) SPU 2007-2008	Potential ongoing source: SPU resurveyed & sampled the entire flume in 2005. Connections were located to businesses along Myrtle St and corrected. Actions: (1) Connection toward North Boeing Field is a possible source of PCBs and both SPU and Boeing are investigating this (see GTSP below). (2) SPU plans to remove contaminated sediments. (3) SPU is developing alternatives to evaluate for future use and closure of the flume.
Georgetown Steam plant (GTSP) Flume	SCL, Boeing, Ecology	(1) SCL, Boeing 2006 (2) SCL, Ecology, EPA 2007	Potential ongoing source: 2002 Site Assessment ranked GTSP as 5 on State contaminated sites list. Historically, the pathway of contamination from GTSP to Slip was the Georgetown Flume. Recent data indicates an area along the west fence with NBF (soils contained behind ecology blocks and capped with asphalt) may be a source of PCBs to both the Flume and stormwater lines on NBF. Actions: (1) Complete soil investigation & cleanup as needed. (2) Revisit past site determinations relative to ongoing sediment contamination & SPU decisions re the Flume.
Crowley Marine** Alaska Logistics (Parcels D & F) Private Drainage	Ecology, SPU, EPA	(1) Ecology/SPU 2005 - early 2006 (done) (2) Ecology 2006 (3) Ecology/EPA 2006-07 wet (4) see below - NPDES	Potential ongoing source: The current tenant, Alaska Logistics, transfers containers for shipment to/from Alaska and was subject to joint Ecology/SPU inspections during 2005 and early 2006. Actions: (1) Physical site inspection confirming outfalls & what they drain(ed). (Done) (2) Compile & evaluate historic effluent data. (3) Collect effluent/runoff and in-line solids to assess recontamination potential from any ongoing source. (4) Evaluate site with respect to NPDES permit (see below).

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Crowley Marine** Alaska Logistics (Parcels D & F)	Ecology/ EPA	(1) Ecology/EPA 2006 (2) Ecology late 2006 (3) Ecology 2007	Evaluate potential historic source: Need to determine historic spills or contamination that may be a source to Slip 4 via possible NAPLs or dissolved GW contaminants. Historic sources indicate wood treating operation, pipe dipping, log storage, and aluminum window manufacture. Portions of the site were unpaved for much of history with large equipment use, soil and groundwater contamination have been associated with USTs (see Appendix A). Actions: (1) Complete historic use investigation to determine need to fill gaps in existing soil & groundwater data to assess potential to recontaminate sediment. (2) Determine means to fill data gap(s). (3) Conduct any necessary sampling & evaluate data.
1st South Properties (Parcel E) Private Drainage	Ecology, SPU	(1) Ecology 2006-2007 (2) Ecology/EPA 2006 (3) see below - NPDES (4) Ecology mid-2006	Potential ongoing source: Ecology and SPU conducted joint inspections at Emerald Services throughout 2005 and early 2006 and found potential stormwater issues for source control which are being addressed. Ecology conducted an upland soil investigation in the vicinity of a bio-swale at the top of the bank adjacent to Slip 4, near the old asphalt plant and determined this was not a potential recontamination source for PCBs. Actions: (1) Collect effluent/runoff and in-line solids to verify conclusions of inspections & to assess sediment recontamination potential from any ongoing source. (2) Compile & evaluate historic effluent data. (3) Evaluate site with respect to NPDES permit (see below). (4) Reassess bio-swale for erosion & recontamination potential for other contaminants.
1st South Properties (Parcel E)	Ecology/ EPA	(1) & (2) Ecology/EPA 2006 (3) Ecology/EPA late 2006 (4) Ecology 2007	Evaluate potential historic source: Tenants have included: Emerald Services/Webster, Cedar Grove Compost, Evergreen Marine Leasing, an asphalt plant and lumber & log industries. See Appendix A for history of this parcel. Actions: (1) Complete historic use investigation to determine need to fill data gaps for recontamination potential (soil & groundwater). (2) Reevaluate past NFA determinations for sediment protection. (3) Determine means to fill data gap(s). (4) Conduct necessary sampling & evaluate data.
Boeing Plant 2**	Ecology/ EPA	(1) EPA/Ecology 2006-07 (2) see below - NPDES	Evaluate potential historic source: The upland history of the 17 acres of Plant 2 draining to Slip 4 is in Appendix A. Soil remediation completed in area near Slip 4. Stormwater permit and SWPPP in place. Data gaps relevant to sediment recontamination are: groundwater data, effluent data from two NPDES permitted outfalls to outer Slip 4. Actions: (1) Assess existing groundwater data in the area - additional groundwater monitoring may be required to address recontamination concerns. (2) Reevaluate NPDES coverage.
Sternoff Metals	Ecology	Ecology September 2006	Potential ongoing source: Former scrap yard with known soil and groundwater contamination. Contaminated soils may be stockpiled on site. On-site drainage discharges to sanitary sewer, adjacent street drains appear to discharge to 8th Ave. storm drain. Outfall is outside Slip 4. Actions: Confirm drainages and sanitary connections.
Markey Machinery	SPU, Ecology	SPU & Ecology: March 2006	Potential ongoing source: Location of stormwater discharge from the property is unknown. Adjacent street drains appear to discharge to 8th Ave. storm drain. Outfall is outside Slip 4. Actions: (1) Confirm drainages and sanitary connections. (2) If necessary, require stormwater permit and SWPPP to control discharges.

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Schultz Distributing formerly Aviation Fuel Storage	SPU Ecology,	SPU & Ecology: December 2006	Potential ongoing source: Facility has NPDES permit. Inspected by SPU September 2005. Discrepancies noted. Actions: Follow-up inspections until compliance achieved.
Marine Vacuum Service Inc	Ecology	Ecology: June 2006	Potential ongoing source: Facility has NPDES permit. Inspected by SPU January 2005. In compliance. Soil and groundwater contaminated with petroleum and metals. Actions: Review data to determine if there are contaminants of concern or pathways to Slip 4.
North Coast Chemical Co.	Ecology	Ecology: May 2006	Potential ongoing source: Soil & groundwater contaminated with motor oil, diesel, arsenic and selenium. Site cleanup planned. Site is in VCP. Actions: Review data to determine if there are contaminants of concern or pathways to Slip 4.
NPDES Stormwater Permits	Ecology, EPA	Ecology, EPA review by 2007	NPDES permit conditions for stormwater discharges to Slip 4 should be reviewed with respect to COCs found in sediments. This will include both municipal and industrial permits. Permittees affected for Slip 4 include Boeing NBF, Boeing Plant 2, Emerald Services, Alaska Logistics, KCIA, WSDOT & SPU.
Business Inspections	Ecology, SPU, KC, EPA	2006-2008 and as needed for future	Repeat business inspections in Slip 4 drainage for pollution prevention practices and source control.
Upland spills	KC, Ecology, SPU, EPA	ongoing / as needed	Depending on the nature of the spill, track origin of the spill and cleanup activities to identify any post-spill source control that may be required.

** These parcels span the Slip 4 Early Action Area and other areas of the slip and Duwamish Waterway. Sites which are not determined to be sources for the Slip 4 Early Action Area will be evaluated as potential sources for these other areas.

Ecology – Washington State Department of Ecology

EPA – U.S. Environmental Protection Agency

SPU – Seattle Public Utilities

KC – King County

NBF – North Boeing Field

KCIA – King County International Airport

WSDOT – Washington State Department of Transportation